

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Alan Clay on 5/25/2010.

The application has been amended as follows:

Claim 1. (Currently amended) A computer program product recorded on a non-transitory computer readable medium for organizing and manipulating Web services software modules in containers on a network, comprising:

computer executable instructions ~~for to determining~~ determine and ~~describing~~ describe Web services software modules in containers that are available at a corresponding, local network node, said Web services software modules comprising executable software modules that can be exchanged between nodes of a network and run at said nodes;

computer executable instructions ~~for generating~~ to generate messages to be transmitted to other containers via a network disclosing said Web services software modules that are available at said corresponding network node, and including contextual information about said containers and said Web services available at said corresponding, local node;

computer executable instructions ~~for receiving and deciphering~~ to receive and decipher messages disclosing Web services software modules that are available at other network nodes corresponding to other containers; and

computer executable instructions ~~for causing~~ to cause the dynamic reconfiguration of said Web services software modules available at said corresponding network node ~~on said network based~~ on said transmitted and said received messages, including the exchange of said Web services software modules between said network nodes, wherein said instructions ~~for causing~~ to cause the dynamic reconfiguration comprise:

computer executable instructions ~~for transmitting~~ to transmit messages that are hardware and software platform independent to said other containers, requesting said other containers to return copies of Web services software modules;

computer executable instructions, responsive to receipt of messages from said other containers requesting copies of Web services software modules available at said corresponding network node, ~~for sending~~ to send copies of said requested Web services software modules to said requesting containers;

computer executable instructions ~~for receiving~~ to receive client requests for use of a Web services software module from client computers via said network;

computer executable instructions that, responsive to receipt of one of said client requests from a client for a Web services software module that is not

available at said corresponding network node, determines, based on said received messages disclosing said Web services software modules that are available at other network nodes, whether another network node has a copy of said particular Web services software module; and

computer executable instructions that invoke a proxy to another of said containers having a copy of a particular Web services software module based on said determination.

Claim 4. (Currently amended) The computer program product of Claim 1 wherein said computer executable instructions ~~for transmitting~~ to transmit messages further comprises computer executable instructions ~~for transmitting~~ to transmit said messages to and from a Web services registry and said computer executable instructions ~~for receiving and deciphering~~ to receive and decipher message further comprises computer ~~readable code~~ executable instructions ~~for receiving~~ to receive said messages from a Web service registry.

Claim 7. (Currently amended) The computer program product of claim 1 wherein said computer executable instructions ~~for transmitting~~ to transmit messages uses a peer to peer messaging protocol between said containers and said computer executable instructions ~~for receiving and deciphering~~ to receive and decipher messages uses a peer to peer messaging protocol between containers.

Claim 13. (Currently amended) The computer program product of claim 1 wherein said proxy comprises:

computer executable instructions ~~for routing~~ to route said client requests for a Web services software module that is not available at said corresponding network node and has been determined to be available at another network node to another container corresponding to said another network node;

computer executable instructions ~~for receiving~~ to receive responses to said client requests from said another network node; and

computer executable instructions ~~for returning~~ to return said responses to said requesting clients.

Claim 14. (Currently amended) The computer program product of claim 13 further comprising:

computer executable instructions ~~for receiving~~ to receive said client requests routed from another of said containers and causing said client requests to be handled by a copy of said particular Web services software module at a network node corresponding to said container to generate said response; and

computer executable instructions ~~for transmitting~~ to transmit said response to said another container that routed said client request to said container.

Claim 15. (Currently amended) The computer program product of claim 1 further comprising:

computer executable instructions ~~for determining~~ to determine a load of client requests at said corresponding network node; and

wherein said computer executable instructions for causing the dynamic reconfiguration of Web services software modules performs said dynamic reconfiguration based on said load determination.

Claim 16. (Currently amended) The computer program product of claim 15 wherein said computer executable instructions ~~for causing~~ to cause the dynamic reconfiguration of Web services software modules further comprises:

computer executable instructions that, responsive to determination of a load of client requests for a particular Web services software module that is not available at said corresponding network node exceeding a predetermined level, issues a message requesting a copy of said particular Web services software module from another container that has a copy of said particular Web services software module;

computer executable instructions ~~for receiving and locally invoking~~ to receive and locally invoke said particular Web services software module from said other container;
and

computer executable instructions ~~for routing~~ to route client requests for said particular Web services software module to said local invocation of said particular Web services software modules.

Claim 17. (Currently amended) The computer program product of claim 16 wherein said computer executable instructions ~~for causing~~ to cause the dynamic reconfiguration of Web services software modules further comprises:

computer executable instructions for offloading said particular Web services software module received from other said container responsive to said load of client

requests for said particular Web services software module dropping below a second predetermined level.

Claim 18. (Currently amended) The computer program product of claim 15 wherein said computer executable instructions ~~for causing~~ to cause the dynamic reconfiguration of Web services software modules comprises:

computer executable instructions that, responsive to determination of a load of client requests for a particular Web services software module available at said corresponding network node exceeding a predetermined level, issues a message requesting another container to accept a copy of the code of said particular Web services software modules from said computer program product; and

computer executable instructions ~~for sending~~ to send a copy of said code of said particular Web services software module to said other container responsive to affirmative responses to said message requesting another container to accept a copy of said particular Web services software module from said computer program product.

Claim 19. (Currently amended) The computer program product of claim 18 wherein said computer executable instructions ~~for causing~~ to cause the dynamic reconfiguration of Web services software modules further comprises:

computer executable instructions ~~for reconfiguring~~ to reconfigure said computer program product to route client requests for said particular Web services software module to said other container.

Claim 21. (Currently amended) The computer program product of claim 20 wherein said computer executable instructions ~~for reconfiguring~~ to reconfigure said

computer program product to route client requests for said particular Web services software module to said other container distributes said client requests for said particular Web services software module between said other containers and said local invocation of said particular Web services software module.

Claim 23. (Currently amended) The computer program product of claim 22 wherein said computer executable instructions ~~for causing~~ to cause the dynamic reconfiguration of Web services software modules further comprising:

computer executable instructions ~~for sending~~ to send a copy of the code of a particular Web services software module responsive to a client request for said Web services software module.

Claim 24. (Currently amended) The computer program product of claim 1 further comprising:

computer executable instructions ~~for monitoring~~ to monitor usage of Web services software modules by clients; and

computer executable instructions ~~for charging~~ to charge said clients for said usage.

2. Claims 1, 4-10, 13-25, 28-34, and 37-49 are allowed.

3. The following is an examiner's statement of reasons for allowance: The invocation of a proxy to a container having a Web services software module based on determining whether another network node has a copy of said Web services software

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module, which is determined from received messages received from client computers in a network during a dynamic reconfiguration of the Web services software modules at a network node is not disclosed or obvious over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey R. Swearingen whose telephone number is (571)272-3921. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivek Srivastava can be reached on 571-272-7304. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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